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Switching and defect dynamics in liquid crystal devices ADRIANO TIRIBOCCHI, GIUSEPPE GONNELLA, University of Bari, Department of Physics and INFN - Italy, DAVIDE MARENDUZZO, SUPA, School of Physics, University of Edinburgh - Scotland, ENZO ORLANDINI, University of Padova, Department of Physics and INFN - Italy — We present some numerical results about nematic cells in which an external electric field is applied. We show that it is possible to desing a simple two-domain hybdridly aligned nematic cell which is bistable and we elucidate the role of hydrodynamics by using a lattice Boltzmann approach. Moreover we report some results of electric field induced switching of devices built starting from cholesteric blue phase, showing how various disclination patterns can be predicted. Hydrodynamic effects are also observed to affect the switching dynamics.

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